

Food and Drug News

Important Information for California Consumers

California Department of Health Services
Food and Drug Branch

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Botulism

During the summer months there is an abundant harvest of fresh fruits and vegetables from California's orchards, farmlands, and backyards. For many people wanting to enjoy these fruits and vegetables throughout the year, home canning is a popular activity. Home canning, if performed correctly, allows people to enjoy the harvests from orchards, farms, or backyards all through the year. However, home canning and other food preparation, if performed incorrectly, can be deadly.

Within the soil and elsewhere in the natural environment, lives a bacterium called *Clostridium botulinum*. Its seed-like spores are normally present in the foods we eat. These spores lie dormant, becoming activated only under certain environmental conditions. Conditions that favor growth and toxin production by *C. botulinum* include a relatively high-moisture, low-salt, low-acid (pH greater than 4.6) food that is devoid of oxygen and stored without refrigeration (above 38°F or 3.3°C.) The food industry uses a variety of physical and chemical treatments to either destroy *C. botulinum* spores or control growth and subsequent production of deadly neurotoxins.

Botulism, which is a form of food poisoning, will occur when foods containing *C. botulinum* toxins are eaten. The symptoms of botulism will usually manifest themselves within 12 to 72 hours after the food containing toxin has been eaten.

The signs and symptoms of *C. botulinum* poisoning include

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nausea, vomiting, fatigue, dizziness, headache, dryness of skin, mouth, and throat, constipation, paralysis of muscles, double vision, and difficulty in breathing.

Early symptoms are often mistaken for less serious illnesses by victims of botulism. It is important that anyone experiencing symptoms seek the immediate assistance of their medical doctor.

Appropriate treatment includes administration of botulinal antitoxin and appropriate supportive care, particularly respiratory assistance. Recovery may take several weeks to months. Death may result; however, the

mortality rate is now less than 10 percent.

Home Canning

Improperly processed canned low-acid foods, such as olives, green beans, or corn, offer a perfect environment for *C. botulinum* to grow and produce toxins.

When canning at home, only high-acid foods such as fruits and tomatoes should be canned without using a pressure cooker. Other foods such as meat, poultry, string beans and corn, should be canned only with the use of a pressure cooker. Follow the instructions of a recognized authority in home canning carefully. It is recommended that one tablespoon of vinegar be added to each container before cooking.

It is important to note that microwave ovens are not recommended for home canning.

To destroy the botulinum toxin, heat all home-canned meat and vegetable foods for at least 15 minutes at 212°F before each serving. *This simple precaution could virtually eliminate deaths caused by *C. botulinum* toxins.*

Home Food Preparation

Cases of botulism poisoning have been linked with improperly prepared foods. In one incident, cooked potatoes left unrefrigerated overnight, and then used to make potato salad, led to botulism poisoning.

The best way to prevent botulism is to thoroughly cook all food products and to promptly refrigerate or freeze leftovers.

In addition, consumers must recognize that certain control measures, such as proper refrigeration and frozen storage, must be maintained from purchase until consumption even for store-bought products. If a commercial product is mishandled, control measures are compromised and botulism could result.

Infant Botulism

Infant botulism, which affects infants under 14 months of age, was first recognized in California in 1976. This type of botulism may be caused by the ingestion of *C. botulinum* spores that colonize and produce toxins in the intestinal tract of infants. Honey has been indirectly implicated as sources of spores in some infant botulism cases. Other non-sterilized foods, as well as non-food items in the

infant's environment, may also be sources of spores. Infant botulism is diagnosed by demonstrating *C. botulinum* toxins and spores in the infant's stools.

Clinical symptoms of infant botulism start with constipation that occurs after a period of normal development. This is followed by poor feeding, lethargy, weakness, pooled oral secretions, and weak or altered cry. Loss of head control is striking. If such symptoms are noted, your child's physician should be notified immediately.

Other precautions that you can take to minimize the risk of contracting botulism include:

- 1) Never buy low-acid food in cans that are swollen, leaking, or dented. (If you find you have purchased a swollen can, you should return it to the store and report the incident to your local health authorities.)
- 2) Never eat or taste questionable food. *C. botulinum* toxins may not change the appearance or

taste of food. ***When in doubt, throw it out.*** Even small amounts of food contaminated by *C. botulinum* toxins can produce severe illness or death.

- 3) Immediately destroy any food that has an unusual odor or discoloration. In addition, make sure that the discarded food cannot be eaten by children, pets, or other animals by adding bleach to containers prior to disposal.

The California Department of Health Services, Food and Drug Branch regulates commercial processed foods in order to ensure their safety. However, only you, the consumer, can ensure the safety of your own home-prepared foods.

If you have a complaint of a commercially processed food, including low-acid canned food or acidified food, please contact:

Food and Drug Branch
Consumer Hot Line
1-800-495-3232